



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/809,870

03/26/2004

Yoshihito Asao

Q80584

7600

23373 7590 03/11/2008
SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER

RUTLAND WALLIS, MICHAEL

ART UNIT

PAPER NUMBER

2836

MAIL DATE

DELIVERY MODE

03/11/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/809,870	Applicant(s) ASAO ET AL.	
	Examiner MICHAEL RUTLAND WALLIS	Art Unit 2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 February 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 10-18 is/are pending in the application.
- 4a) Of the above claim(s) 2,4,6-8,10 and 12-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,5,11 and 15-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 2/14/08 have been fully considered but they are not persuasive.

Applicant argues there is no need for an electric connection body for electrically connecting the battery and the inverter unit, since the battery and inverter unit of Masako are already housed in the electromagnetic shielding container.

In response Masaki teaches connection of a battery and the inverter and containing the battery and the inverter within a housing, however does not address physical mounting structures or attachment in any meaningful way. The components of Masaki must be attached or fixed in some manner to the vehicle. Shirakawa teaches in the illustrations shown in at least Fig. 4 a battery may for example be fixed to an inverter with a plate. It remains the position of the Office it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Masaki to use a metal plate as means to directly connect the battery and the inverter in order to securely attach the components and to reduce the need mounting space in the vehicle.

Applicant secondly argues there is no teaching or suggestion in Masaki regarding the connection between the battery and the inverter unit; therefore it is evident that the Examiner's reasoning is merely a result of hindsight.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). As the teaching of using a plate as an attachment means between a battery and an inverter unit is clearly seen in Shirakawa it would have been obvious to one of ordinary skill in the art at the time of the invention to apply the teachings of a metal plate to the system disclosed by Masaki in order to secure the components and to reduce the need mounting space in the vehicle.

Applicant's remaining arguments depend directly or indirectly from the above arguments. In view of the above the rejection is proper and hence is maintained.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 18 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. Applicant has added the limitation "wherein the metal plate is not planar", while there is nothing inherently ambiguous or uncertain about a negative limitation. So long as the boundaries of the patent protection sought are set forth definitely, albeit negatively MPEP 2173.05(i). It appears based on a review of Applicant's specification, no discussion of characteristics of the metal plate as not planar, rather only a discussion of "planar space". It is therefore considered new matter. If applicant contends proper support may be found for the added negative, Applicant should direct the office to a relevant section of Applicant's disclosure containing support for the above mentioned limitation.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 11 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masaki et al. (JP Pub No. 07-007810) in view of Shirakawa et al. (U.S. Pat. No. 6,843,335)

With respect to claim 1 Masaki teaches a vehicle power supply system comprising: a battery (item 12); an inverter unit (item 6) for converting DC electric power of the battery into AC electric power and supplying it to a rotating electric machine (item 3 motor) to drive it; an AC wiring line (item 5) for connecting the rotating electric machine and the inverter unit; and a DC wiring line (item 13) for connecting the inverter unit and the battery (see Fig. 1), wherein the inverter unit is placed in a vicinity of the battery so that the DC wiring line becomes shorter than the AC wiring line (see constitution, i.e. abstract translation). Masaki teaches in figure 1 the battery and the inverter are arranged in the same housing, and further teaches the battery and the inverter is arranged next to each other. Masaki does not teach the use of a metal plate in the connection of the battery to the inverter. Shirakawa teaches a vehicle power supply system comprising: a battery (item 57); an inverter unit (contained within item 1 in Fig. 4) for converting DC electric power of the battery (57) into AC electric power and supplying it to a rotating electric machine (item 54) to drive it. Shirakawa further teaches an electric connection body (items 21 and 22) for electrically connecting the battery (item 57) and the inverter unit is a metal plate (planar conducting member formed with 21-23); and wherein the metal plate directly connects the battery (57) and the inverter (contained within housing item 1). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Masaki to use a metal plate to directly

connect the battery and the inverter in order to secure the components and to reduce the need mounting space in the vehicle.

With respect to claim 11 Masaki teaches the inverter unit (item 6) is held and fixed (secured in a housing) to the battery (item 12) by the electric connection body (connection wires and secured in housing) for electrically connecting the battery and the inverter unit.

With respect to claim 16 Shirakawa teaches the use of a planar conducting member which is fixed with the inverter unit (contained within item 1). Shirakawa teaches the use of fasteners to affix the metal plate with the battery and the inverter. Shirakawa does not teach the welding of which the plate and the junction board are attached. As welding is a well known means of attaching such circuits it would have been obvious to one of ordinary skill in the art at the time of the invention to weld the board and plate of Shirakawa to form one integral structure to reduce the wiring and maintenance.

Claims 3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masaki et al. (JP Pub No. 07-007810) in view of Shirakawa et al. (U.S. Pat. No. 6,843,335) in view of Saka et al. (JP Pub No. 2004-120936)

With respect to claims 3 and 5 Masaki teaches in figure 1 the battery and the inverter are arranged in the same housing, and further teaches the battery and the inverter is arranged next to each other. Masaki does not teach the integral fixing to the upper or side face of the battery. Saka teaches making the battery and the inverter integral (see Solution in translated abstract) fixing of the inverter to the battery. It would

Art Unit: 2836

have been obvious to one of ordinary skill in the art at the time of the invention to modify Masaki to integrally fix the inverter to the side or upper face of the battery since it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art. *Howard v. Detroit Stove Works*, 150 U.S. 164 (1893)

Claims 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Masaki et al. (JP Pub No. 07-007810) in view of Shirakawa et al. (U.S. Pat. No. 6,843,335) in further view of Becker (U.S. Pat. No. 4,535,863) Masaki teaches the battery is contained within a housing or container. Shirakawa teaches the battery is contained within a frame housing. Neither Masaki nor Shirakawa clearly picture a tray. Becker teaches the use of a battery tray and securing means. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Masaki and Imai to include the use of a tray in order to provide further means to insure the battery remains in place.

Claims 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Masaki et al. (JP Pub No. 07-007810) in view of Shirakawa et al. (U.S. Pat. No. 6,843,335) in further view of Tamba et al. (U.S. Pat. No. 6,621,701) Imai teaches the use of inverter mounted to the vehicle power supply, however neither Masaki nor Shirakawa teach the use of a liquid cooling device to cool the inverter unit. Tamba teaches the use of a liquid cooling device to cool circuitry such as an inverter. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Masaki and Shirakawa to

use a liquid cooling device similar to the one seen in Tamba in order to prevent damage and increase the life of the inverter.

Claims 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Masaki et al. (JP Pub No. 07-007810) in view of Shirakawa et al. (U.S. Pat. No. 6,843,335) in further view of Johnson et al. (U.S. Pat. No. 6,462,961) Shirakawa teaches the metal plate is a planar plate. Johnson teaches a universal mounting bracket (for example Fig. 9) which is not planar. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Masaki and Shirakawa to use a bracket which is not planar in order to attach the battery and the inverter to a side of the inverter unit.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Rutland-Wallis whose telephone number is 571-272-5921. The examiner can normally be reached on Monday-Thursday 7:30AM-6:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on 571-272-2084. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael J Sherry/
Supervisory Patent Examiner, Art Unit 2836

MRW